designed including 5 elements defining quality, clustered into three criteria, and 12 components covering types of evidence required by decision-making bodies worldwide. A scoring process was developed based on international scientific standards in each field of research covered. To quantify the intrinsic value of an intervention, a multi-criteria decision analysis (MCDA) matrix was designed encompassing 15 value components. Scoring, which depends on the value system of the evaluator, was designed to allow inclusion of perspectives of a representative group of health care stakeholders. An integrated process to apply matrices was established. The EVIDEM methodology can be applied retrospectively to explore the contribution of quality of evidence and intrinsic value to past coverage decisions. Prospectively, matrices can be adapted to specific needs of decision-makers and applied to evaluate new health care interventions. The matrices also provide a practical collaborative framework for those who generate data and those who need data to make decisions, ultimately facilitating future health care decision-making.

PMC51

MEDICATION ADHERENCE: A CONCEPTUAL REVIEW

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Adherence is an important element in the medical field since it is thought to be the link between treatment and outcomes. Adherence to medications has been extensively researched and it is evident that non-adherence is common across most disease states. These studies vary by the conceptual definitions of adherence behavior and by the research paradigms. The objectives of this presentation are to review the conceptual definitions used in adherence research and to review the theoretical frameworks used to explain mediation adherence behavior. Compliance, adherence, and concordance are used interchangeably in the medical, health behavior, and pharmacy literature. It is important to compare and contrast these terms to study specific health behavior. These terms reflect different philosophies of medicine with respect to the provider-patient relationship. Conceptually, adherence, compliance and concordance differ in the amount of patient involvement and participation, that may be depicted along a continuum of patient involvement- with compliance depicting no patient involvement, concordance depicting patients as being equal partners in their treatment and adherence lying somewhere in between. Consistent use of these concepts will move the science toward understanding specific patient behavior and its antecedents.

Much of the adherence research published in the medical and pharmacy journals does not include a theoretical framework. The non-theoretical approach to adherence research is partly to blame for the lack conceptual clarity and underscores the need to incorporate a theoretical basis in adherence research. Prominent theories in adherence research include expectancy-values models like the health belief model, the transtheoretical model, and the self-regulation theory. Other promising models include the medication adherence model, the interaction model of client behavior and the therapeutic decision model. The strengths and weaknesses of each are presented. Finally, recommendations for researchers of medication adherence include using a theoretical framework and conducting longitudinal studies are provided.

PMC52

THE DEVELOPMENT OF THE PROGNOSTIC PROPENSITY SCORE: UTILIZED TO PROVIDE PHYSICIANS WITH DETAILED EVIDENCE TO ALLOW FOR OPTIMAL PRESCRIBING

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OBJECTIVE: Clinical evidence is often reported as an average treatment effect across a large population. This is appropriate if all patients experience the same effect from a given treatment. However, more often, different patients experience different outcomes on the same medication. If this is true, then averaging the effects of treatment obscures the outcomes received by most patients. It also makes it difficult for physicians to utilize this evidence to select the most appropriate treatment for individual patients. This interpretation of average outcomes by physicians leads to geographic variation, inappropriate care, and increased health care costs. An essential step towards optimizing therapy is to provide evidence that recognizes inter-individual differences in drug response. **METHODS:** The PPS is defined as the expected outcome (on control) given the individual's covariates. To calculate the PPS, the outcome of interest is regressed on the covariates for those patients treated with the control(Drug A). Using the coefficients from this model, in conjunction with patient characteristics, the PPS is computed for all patients; as if every patient was a member of the control group. Variations in treatment effect are then identified across subgroups by partitioning patients, according to PPS, into strata and calculating the treatment effect within each stratum. This analysis is repeated using the alternative treatment (Drug B) as the control. By identifying and comparing the stratum that receives the optimal benefit from each treatment, the patient characteristics that are uniquely associated with success on Drug A and Drug B can be determined. **RESULTS:** To demonstrate the use of the PPS, a convenient sample of California Medicaid beneficiaries diagnosed with schizophrenia will be used. **CONCLUSIONS:** The outlined approach will allow physicians to more accurately prescribe the most beneficial treatment for each and every patient, by linking patient characteristics to treatment success.

PMC53

PREVALENCE OF RESEARCH FOCUSED ON GENETICALLY-LINKED DISORDERS: WHERE HAVE WE BEEN AND WHERE ARE WE GOING?

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OBJECTIVES: The completion of the human genome project has not provided the answer to genetic disease that was expected and a large amount of research is still being conducted into the treatment of genetically-linked disorders. The rationale of this review was to investigate the proportion of research conducted within eight genetically-linked disorders across time (Alzheimer's disease [AD], Crohn's disease [CD], cystic fibrosis [CF], haemophilia, Huntington's disease [HD], muscular dystrophy [MD], Obesity, Sickle cell anaemia [SCA]) and to predict likely areas of growth within the selected disorders. **METHODS:** A citation search was conducted in Medline on December 12, 2007. A filter for RCTs was implemented to provide an estimate of clinical interest in a given disease for the years 1951–2005 (5-yearly time periods). **RESULTS:** A total of 706,660 probable RCT citations were retrieved, with 20,787 relating to the selected disorders. Over time, the rate of increase of probable RCTs relating to these genetically-linked disorders is not significantly different from the general increase in RCTs

($t = -0.09$, $p = 0.93$). Probable RCTs in these areas now account for 4% of all RCTs compared to 1.6% in 1956–60. Advances in mono-factorial disorders such as CF, Haemophilia, HD, MD and SCA, have tended to remain relatively constant across 50 years, whilst multi-factorial diseases such as AD and CD, continue to attract significant interest. Obesity has attracted an ever increasing number of RCTs. **CONCLUSIONS:** Trials of new treatments within the selected diseases were expected to increase; however, results reported no evidence of increased research (within the selected disorders) following the identification of the causative gene(s). A greater interest appeared to be directed towards diseases with gene-environment interaction i.e. obesity. Further development of this analysis may assist identification of genetic research investments which can translate most effectively to improved clinical practice.

WITHDRAWN **PMC54**

PMC55

MATRIX MODEL FOR DETERMINING A DRUG'S HEALTH ECONOMIC FOCUS TO OPTIMIZE ITS ECONOMIC VIABILITY

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Discovering and developing drugs is a risky process that requires a great deal of both time and money. To gain competitive advantage, companies must establish the health economic viability of the product and adapt development plans effectively to meet market access requirements. To present a conceptual model that optimizes the economic viability of potential new drugs by identifying useful properties and obtaining clinical, economic, and quality-of-life data as early as possible in the product development cycle. The matrix is formed by two drug characteristics of primary importance: indication and mechanism of action (MOA). Four scenarios arise from this matrix: I = New Market Entry (drugs having both novel MOA and indication), II = Product Development (new MOAs for existing indications), III = Market Expansion (existing MOA but new indication), and IV = Market Penetration (existing MOA and existing indication). Economic viability incorporates the following six parameters: efficacy, tolerability/safety, QOL, pricing, effectiveness, and formulation. To optimize a product's economic viability, sponsors should evaluate, based on type of scenario and its requirements for these six parameters, the health economic challenges ahead to be overcome in order to achieve successful reimbursement. Drugs in Scenario I fulfill an unmet therapeutic need and are therefore highly desired. Economic viability for these products is high. Those with novel MOAs are also highly valued, as they could treat wider ranges of patients or those who fail other regimens. Compounds in Scenario IV pose the greatest challenges for health economic viability. The product is considered a 'me too' and, therefore, there is an increased focus on added value relative to existing products. Using this matrix can identify early the optimal position of a new drug, the data required, and when the data should be collected and verified. Consequently, development can be made efficient, with reduced waste of resources and funds.

CARDIOVASCULAR DISORDERS— Clinical Outcomes Studies

PCV1

A MODIFIED RXRISK-V COMORBIDITY INDEX PREDICTS ADHERENCE WITH LIPID LOWERING THERAPY (LLT)

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OBJECTIVE: Studies have shown that increased co-morbidity is associated with poor pharmacological adherence. We undertook to determine the feasibility of using the modified RxRisk-V co-morbidity index to predict adherence to lipid lowering therapy (LLT). **METHODS:** Using RxAmerica data, patients ≥18 years and with ≥18 months of continuous health plan enrollment from 2001–2005 were included in the analysis if they were 'new starts' with any class of LLT, defined as no prior treatment in the class for six months. Adherence ratios (defined as proportions of drug-available days during the follow-up period) were calculated and patients with adherence ratios ≥0.80 were considered adherent to LLT. Using a modified RxRisk-V, co-morbid conditions (CCs) were identified based on one-year of prescription claims prior to the index LLT prescription. Multivariable logistic regression was used to estimate the age- and sex-adjusted odds for adherence associated with various levels of disease co-morbidity. **RESULTS:** A total of 19,458 patients were identified as new starts with an LLT class. The mean age of patients was 55 years (SD 12.1), 48% were females, and 43% had ≥3 CCs. Results of the regression analysis showed that patients with 1–2 CCs were less likely to be adherent (OR: 0.90; CI: 0.83–0.99) compared to patients with no CCs. Patients with ≥3 CCs were more likely to be adherent (OR: 1.10; CI: 1.01–1.18). The OR for adherence was significantly decreased for individuals with anxiety and tension, pain disorders, and tuberculosis. The OR was significantly increased for patients with cardiovascular diseases, psychiatric disorders, gastric acid disorders, and others. **CONCLUSION:** These results show that the relationship between adherence and degree of co-morbidity takes a U-shaped distribution; patients with lower levels of co-morbidity are less adherent compared to patients with no co-morbidity, and patients with higher levels of co-morbidity are more adherent.

PCV2

STROKE EVENTS IN MANAGED CARE PATIENTS MANAGED ACCORDING TO NATIONAL LIPID TREATMENT GUIDELINES

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OBJECTIVE: The objective of the analysis was to evaluate impact of adherence to lipid treatment guidelines [National Cholesterol Education Program's Third Report on Detection, Evaluation, and Treatment of High Blood Cholesterol and Adult Treatment Panel's (NCEP-ATP III)] on stroke events in managed care patients. **METHODS:** Patients with laboratory values for low-density lipoprotein-cholesterol (LDL-C), high-density lipoprotein-cholesterol (HDL-C), & triglycerides (TG) between January 1, 2003-December 31, 2005 [index date], no lipid therapy 6-months pre-index date, and minimum 12 months health plan eligibility pre- and post-index date were analyzed using a large integrated United States managed care database. Patients were classified as appropriately (AM) or inappropriately managed (IAM) using baseline lipid levels and the first post-index follow-up lipid panel (goal attainment irrespective of therapy), and risk stratification per NCEP-ATP III guidelines. Post-index,